

EXHIBIT B

**IN THE UNITED STATES DISTRICT COURT
FOR THE MIDDLE DISTRICT OF LOUISIANA**

DR. DOROTHY NAIRNE, JARRETT
LOFTON, REV. CLEE EARNEST LOWE, DR.
ALICE WASHINGTON, STEVEN HARRIS,
ALEXIS CALHOUN, BLACK VOTERS
MATTER CAPACITY BUILDING
INSTITUTE, and THE LOUISIANA STATE
CONFERENCE OF THE NAACP,

Plaintiffs,

v.

R. KYLE ARDOIN, in his official capacity as
Secretary of State of Louisiana

Defendant.

CIVIL ACTION NO. 3:22-cv-00178
SDD-SDJ

Dr. Handley Expert Report

Expert Report on the Enacted Louisiana State House and Senate Plans

Dr. Lisa Handley

Exhibit

PL 001

I. Introduction

Summary Conclusion. Voting in the seven areas of Louisiana that I studied for this project is racially polarized. This polarization impedes the ability of Black voters to elect candidates of their choice unless districts are drawn that provide Black voters with an opportunity to elect their preferred candidates to the state legislature. As demonstrated by illustrative state house and state senate plans (Illustrative State House Plan and Illustrative State Senate Plan; collectively, Illustrative Plans), the enacted state legislative plans (Enacted State House Plan and Enacted State Senate Plan; collectively, Enacted Plans) fail to offer Black voters an opportunity to elect their preferred candidates in areas of the state where voting is racially polarized and where a majority Black district or additional majority Black districts could have been created. The failure of the Enacted Plans to provide more Black opportunity districts dilutes the opportunity of Black voters to participate in the electoral process and to elect candidates of their choice to the Louisiana State House of Representatives and State Senate.

Scope of Project. I was retained by plaintiffs in this case as an expert to conduct an analysis of voting patterns by race in several areas in the State of Louisiana to determine whether voting in these areas is racially polarized.¹ In addition, I was asked to assess the ability of Black voters to elect their candidates of choice in legislative districts in those same areas in the Enacted Plans compared to the Illustrative Plans drawn by plaintiffs' expert demographer, Bill Cooper, in this litigation. Much of this report is the same content as provided in the initial report I filed in this case last year before the stay in the proceeding. (*Preliminary Report on the Newly Enacted Louisiana State House and Senate Plans*, July 2022).²

II. Professional Background and Experience

I have over thirty-five years of experience as a voting rights and redistricting expert. I have advised scores of jurisdictions and other clients on minority voting rights and redistricting-related issues. I have served as an expert in dozens of voting rights cases. My clients have included state and local jurisdictions, independent redistricting commissions (Arizona, Colorado,

¹ I am being compensated at a rate of \$300 an hour for work on this project.

² A large portion of the data for this project was compiled for *Press Robinson v. Kyle Ardoyn*, and the description of the data and methodology in this report (and my earlier report, *Preliminary Report on the Newly Enacted Louisiana State House and Senate Plans*) derives from the expert report I filed in that case.

Michigan), the U.S. Department of Justice, national civil rights organizations, and such international organizations as the United Nations.

I have been actively involved in researching, writing, and teaching on subjects relating to voting rights, including minority representation, electoral system design, and redistricting. I co-authored a book, *Minority Representation and the Quest for Voting Equality* (Cambridge University Press, 1992), and co-edited a volume, *Redistricting in Comparative Perspective* (Oxford University Press, 2008), on these subjects. In addition, my research on these topics has appeared in peer-reviewed journals such as *Journal of Politics*, *Legislative Studies Quarterly*, *American Politics Quarterly*, *Journal of Law and Politics*, and *Law and Policy*, as well as law reviews (e.g., *North Carolina Law Review*) and a number of edited books. I hold a Ph.D. in political science from The George Washington University.

I have been a principal of Frontier International Electoral Consulting since co-founding the company in 1998. Frontier IEC specializes in providing electoral assistance in transitional democracies and post-conflict countries. In addition, I am a Visiting Research Academic at Oxford Brookes University in Oxford, United Kingdom. Attached to the end of this report is a copy of my curriculum vitae.

III. Analyzing Voting Patterns by Race

An analysis of voting patterns by race serves as the foundation of two of the three elements of the “results test” as outlined in *Thornburg v. Gingles*: a racial bloc voting analysis is needed to determine whether the minority group is politically cohesive; and the analysis is required to determine if whites are voting sufficiently as a bloc to usually defeat the candidates preferred by minority voters. The voting patterns of white and minority voters must be estimated using statistical techniques because direct information about the race of the voters is not, of course, available on the ballots cast.

To carry out an analysis of voting patterns by race, an aggregate level database must be constructed because individual level data is not available. The aggregate data relied on is usually election precinct data. Information relating to the demographic composition and election results in the precincts is collected, merged, and statistically analyzed to determine if there is a relationship between the racial composition of the precincts and support for specific candidates across the precincts.

Standard Statistical Techniques. Three standard statistical techniques have been developed over time to estimate vote choices by race: homogeneous precinct analysis, ecological regression, and ecological inference.³ Two of these analytic procedures—homogeneous precinct analysis and ecological regression—were employed by the plaintiffs’ expert in *Thornburg v. Gingles*, have the benefit of the Supreme Court’s approval in that case, and have been used in most subsequent voting rights cases. The third technique, ecological inference, was developed after the *Gingles* decision and was designed, in part, to address some of the disadvantages associated with ecological regression analysis. Ecological inference analysis has been introduced and accepted in numerous district court proceedings.

Homogeneous precinct (HP) analysis is the simplest technique. It involves comparing the percentage of votes received by each of the candidates in precincts that are racially or ethnically homogeneous. The general practice is to label a precinct as homogeneous if at least 90 percent of the voters or voting age population is composed of a single race. (In Louisiana, where turnout data by race is available, a homogenous precinct is defined as a precinct in which 90 percent or more of the voters were Black or White.) In fact, the homogeneous results reported are not estimates—they are the actual precinct results. However, most voters in Louisiana do not reside in homogeneous precincts, and voters who reside in homogeneous precincts may not be representative of voters who live in more racially diverse precincts. For this reason, I refer to these percentages as estimates.

The second statistical technique employed, *ecological regression* (ER), uses information from all precincts, not simply the homogeneous ones, to derive estimates of the voting behavior of minorities and whites. If there is a strong linear relationship across precincts between the percentage of minorities and the percentage of votes cast for a given candidate, this relationship can be used to estimate the percent of minority and white voters supporting the candidate.

The third technique, *ecological inference* (EI), was developed by Professor Gary King. This approach also uses information from all precincts but, unlike ecological regression, it does not rely on an assumption of linearity. Instead, it incorporates maximum likelihood statistics to

³ For a detailed explanation of homogeneous precinct analysis and ecological regression, see Bernard Grofman, Lisa Handley, and Richard Niemi, *Minority Representation and the Quest for Voting Equality* (Cambridge University Press, 1992). See Gary King, *A Solution to the Ecological Inference Problem* (Princeton University Press, 1997) for a more detailed explanation of ecological inference.

produce estimates of voting patterns by race. In addition, it utilizes the method of bounds, which uses more of the available information from the precinct returns than ecological regression.⁴ Unlike ecological regression, which can produce percentage estimates of less than 0 or more than 100 percent, ecological inference was designed to produce only estimates that fall within the possible limits. However, EI does not guarantee that the estimates for all of the candidates add to 100 percent for each of the racial groups examined.

In conducting my analysis of voting patterns by race in recent elections in Louisiana, I also used a more recently developed version of ecological inference, which I have labeled “EI Rx C” in the summary tables. One advantage of EI Rx C is that it produces generally accepted confidence intervals for the estimates of minority and white voters supporting each of the candidates. I have included these confidence intervals in the summary tables in the *Appendices*.

Database To analyze voting patterns by race using aggregate level information, a database that combines election results with demographic information is required. This database is almost always constructed using election precincts as the unit of analysis. The demographic composition of the precincts is based on voter registration or turnout by race if this information is available. Where this is not available, voting age population or citizen voting age population is used. Louisiana collects voter registration data by race (registering voters self-identify their race), and tallies and provides precinct turnout by race data. The 2015–2022 election results and turnout by race data, for all precincts and election cycles, are publicly available on the Louisiana Secretary of State’s website.

To build the Louisiana dataset for the purpose of the racial bloc voting analysis, precinct-level election returns and turnout counts by race from the Louisiana Secretary of State’s office were collected.⁵ In addition, in order to associate this data with census population data, precinct-

⁴ The following is an example of how the method of bounds works: if a given precinct has 100 voters, of whom 75 are Black and 25 are White, and the Black candidate received 80 votes, then at least 55 of the Black voters voted for the Black candidate and at most all 75 did. (The method of bounds is less useful for calculating estimates for White voters, as anywhere between none of the Whites and all of the Whites could have voted for the candidate.)

⁵ Election returns were obtained either directly from the Secretary of State website or from OpenElections, an organization that collects election returns and formats them in a consistent manner across all states.

level shapefiles for the relevant years were acquired.⁶ The 2020 census-block shapefiles, and total and voting age populations by race and ethnicity, were obtained from the Census FTP portal.⁷

Early and absentee votes are reported only at the parish level in Louisiana—they are not allocated back to the precinct where the voter resides. Rather than simply ignore these votes, they have been allocated to the parish precincts proportionally based on the votes received by each of the candidates on Election Day.⁸

Elections analyzed All recent statewide election contests that included Black candidates were analyzed.⁹ These elections are listed in Table 1, below.¹⁰

Table 1: Louisiana Statewide Elections Analyzed

| Election Cycle | Office | Black Candidate(s) |
|-----------------------|-------------------------------|---------------------------|
| November 2022 | U.S. Senator | Gary Chambers, Jr. |
| November 2020 | U.S. President/Vice President | Kamala Harris |
| | U.S. Senator | Adrian Perkins |
| | | Derrick Edwards |
| November 2019 | Secretary of State | Gwen Collins-Greenup |
| October 2019 | Lieutenant Governor | Willie Jones |

⁶ The precinct shapefiles were obtained either directly from the Secretary of State website or from the Voting and Election Science Team (VEST) website.

⁷ To conduct the effectiveness analysis, the election returns for the 2015–2022 election cycles were disaggregated down to the level of the 2020 census block on the basis of the proportion of the voting age population that each block comprised of the precinct. This necessitated associating block-level census data with the precincts. This was accomplished using the precinct shapefiles.

⁸ An example of the allocation process is as follows: Candidate X received 80% of her Election Day parish-wide vote in two-precinct Parish Z from Precinct A and 20% from Precinct B. Therefore, 80% of her early and absentee votes are allocated to Precinct A and 20% to Precinct B.

⁹ Courts consider election contests that include minority candidates more probative than contests that include only white candidates for determining if voting is racially polarized. This is because it is not sufficient for minority voters to be able to elect their candidates of choice only if these candidates are white. On the other hand, it is important to recognize that not all minority candidates are the preferred candidates of minority voters.

¹⁰ In one of the elections analyzed—the November 2020 election for U.S. President—it was the running mate, Kamala Harris, who is Black.

| Election Cycle | Office | Black Candidate(s) |
|----------------|---------------------|------------------------|
| | Attorney General | Ike Jackson |
| | Treasurer | Derrick Edwards |
| | Secretary of State | Gwen Collins-Greenup |
| December 2018 | Secretary of State | Gwen Collins-Greenup |
| November 2018 | Secretary of State | Gwen Collins-Greenup |
| November 2017 | Treasurer | Derrick Edwards |
| October 2017 | Treasurer | Derrick Edwards |
| November 2015 | Lieutenant Governor | Kip Holden |
| October 2015 | Lieutenant Governor | Kip Holden |
| | Attorney General | Ike Jackson |
| | | Geri Broussard Baloney |
| | Secretary of State | Chris Tyson |

In addition to these 16 statewide contests, recent (2015-2022) bi-racial state legislative election contests in state house and senate districts that fell within the areas of interest were also analyzed.

Geographic areas analyzed I examined voting patterns and the opportunities for Black voters to elect their candidates of choice in seven geographic areas (“areas of interest”) in the State of Louisiana. These areas of interest are the seven areas of the State where the Illustrative Plans create more majority Black voting age population (BVAP) districts than the Enacted Plans. As my analysis demonstrates, these additional majority BVAP districts offer Black voters opportunities to elect their candidates of choice that the Enacted Plans fail to provide.¹¹

¹¹ I have used the approach of creating specific geographic areas of interest to evaluate voting patterns and the opportunities for Black voters to elect their candidates of choice in another recent redistricting case, and my analysis was relied upon and accepted by the Court. *See Alpha Phi Alpha Fraternity, Inc. v. Raffensperger*, No. 1:21-cv-05337-SCJ, 587 F. Supp. 3d 1222 (N.D. Ga. Feb. 28, 2022).

The areas of interest are defined as the parishes in which the additional majority BVAP districts drawn in the Illustrative Plan are located.¹² For example, the Illustrative State Senate Plan creates a majority BVAP district, District 19, in Southeast Louisiana, and the Enacted State Senate Plan does not include a majority BVAP district in this area. Illustrative State Senate District 19 falls in Jefferson Parish and St. Charles Parish, and therefore I have designated these two parishes as Area of Interest 2. Table 2 lists the areas of interest, the parishes within each area of interest, and the additional majority BVAP illustrative state house and senate districts that are located within the area. In addition, because one area of interest includes both additional state senate and state house districts, I have provided state senate and house cluster names for these areas to facilitate the consideration of the state house and state senate plans separately.

¹² The Enacted State House Plan included a majority BVAP state house district that is not a majority BVAP district in the Illustrative State House Plan: District 62. Enacted District 62 is located in East Baton Rouge and East Feliciana. Therefore, although there are no new Illustrative Districts that fall in East Feliciana, I have included East Feliciana in Area of Interest 7.

Table 2: Areas of Interest and the Additional Illustrative Majority BVAP Districts

| Area of Interest | Parishes | Additional Illustrative State Senate District | Additional Illustrative State House District |
|---------------------------------|---|---|--|
| Area 1: Northwest Louisiana | Bossier Caddo | 38 (State Senate Cluster 1) | 1 (State House Cluster 3) |
| Area 2: Southeast Louisiana | Jefferson St. Charles | 19 (State Senate Cluster 2) | |
| Area 3: East Central Louisiana | East Baton Rouge West Baton Rouge Iberville Point Coupee | 17 (State Senate Cluster 3) | |
| Area 4: Western Louisiana | De Soto Natchitoches Red River | | 23 (State House Cluster 1) |
| Area 5: Southwest Louisiana | Calcasieu | | 38 (State House Cluster 2) |
| Area 6: South Central Louisiana | Ascension Iberville | | 60 (State House Cluster 4) |
| Area 7: East Central Louisiana | East Baton Rouge East Feliciana | | 68 69 (State House Cluster 5) |

IV. Voting Is Racially Polarized in the Areas of Interest

Voting Patterns in the Areas of Interest Voting is consistently racially polarized in the seven areas of interest that I examined. Summary tables reporting estimates of Black and White voters supporting each of the candidates in the 16 statewide elections examined can be found in *Appendix A (A1–A7)*. In the seven areas, Black and White voters supported different candidates in nearly every election contest analyzed, with Black voters cohesive in support of their preferred candidates and the White voters bloc voting against these candidates. Table 3 provides summary averages of the percentage of Black and White support for the Black-preferred candidates in all 16 elections and in the eight elections with only two major candidates. This average is reported for each geographic area and for all seven of the areas together.

Table 3: Average Black and White Support for Candidates Preferred by Black Voters

| Area | All statewide election contests (16) | | Two-candidate contests (8) | |
|----------------|--|--|--|--|
| | Black vote for Black-preferred candidate | White vote for Black-preferred candidate | Black vote for Black-preferred candidate | White vote for Black-preferred candidate |
| 1 | 82.3 | 9.6 | 91.9 | 12.2 |
| 2 | 83.0 | 11.8 | 93.6 | 15.2 |
| 3 | 82.3 | 15.4 | 92.5 | 19.6 |
| 4 | 82.3 | 9.7 | 94.0 | 12.6 |
| 5 | 84.2 | 11.3 | 94.7 | 15.0 |
| 6 | 82.3 | 11.4 | 92.8 | 14.3 |
| 7 | 82.5 | 16.2 | 92.5 | 20.1 |
| Average | 82.7 | 12.2 | 93.2 | 15.6 |

The average percentage of Black voter support for their preferred candidates (“Black-preferred candidates”) was 82.7% across all 16 contests in the seven areas combined.¹³ When contests with only two candidates are considered, the level of cohesion was even higher, with Black voters’ support averaging 93.2% for the Black-preferred candidates across these eight two-candidate contests. The average percentage of White voter support for the Black-preferred candidate, on the other hand, was 12.2% across the 16 contests and rose to only 15.6% when contests with only two candidates are considered.

¹³ In all 16 of the contests analyzed, the Black candidate or, if there was more than one Black candidate, one of the Black candidates, was the candidate of choice of Black voters. This means that in the two-candidate contests the candidate of choice of Black voters received more than 50% of the vote. However, in the eight (out of the 16 elections) where more than two candidates competed, the candidate of choice of Black voters may have received only a plurality of the Black vote. I averaged the percentage of the vote received by the candidate of choice of Black voters in all 16 contests and in the eight contests with only two candidates. Although the Black-preferred candidate was always a Black candidate in the statewide elections, not all Black candidates who ran statewide were the candidates of choice and hence have not been included in the averages.

Voting Patterns in State Legislative Elections in the Areas of Interest In addition to examining recent statewide elections in the areas of interest, I also analyzed recent (2015-2022) state legislative elections, including special state legislative elections, in these areas. These election contests are “endogenous” in that they are for the office at issue (seats in the state legislature), but they do not necessarily cover the same geographic area as the proposed districts—the state legislative contests analyzed were held in the districts as they were drawn in 2011. I analyzed all bi-racial state house and senate contests in which the 2011 districts were wholly or partially contained in the areas of interest.¹⁴

My examination of voting patterns in recent bi-racial state legislative elections yielded similar results to the area of interest analyses. The estimates of Black and White voting patterns for these state legislative contests can be found in *Appendix B*. Ten of the 11 state senate elections (90.9%) analyzed were racially polarized (*Appendix B1*).¹⁵ The candidate preferred by Black voters won in all of the election contests in the majority BVAP district contests examined (either in the primary or a subsequent runoff election) but lost two of the three contests in non-majority BVAP districts analyzed. The only Black-preferred candidate that was successful in a non-majority BVAP district in the contests examined was a White candidate, John Milkovich, in State Senate District 38 in 2015. (In the 2019 election contest in this district, the Black candidate supported by Black voters was defeated.)

The ten bi-racial state house contests analyzed were all racially polarized (*Appendix B2*). Black candidates were successful in the three contests in the majority BVAP districts examined. The candidates preferred by Black voters lost, either in the primary or the runoff, in all of non-majority BVAP districts except one. The exception was the October 2019 contest in District 62, in which the winner of the runoff, Roy Daryl Adams, was the candidate of choice of Black voters.

¹⁴ More specifically, any recent bi-racial contest in a 2011 state legislative district in which at least 60% of the district fell within the area of interest was analyzed. In addition, recent bi-racial contests in any 2011 state legislative district that overlaps with one of the additional illustrative BVAP districts (listed in Table 2) were analyzed. This approach provided me with a sufficient number of elections to enable me to draw reliable conclusions, and is sufficiently limited to the geographic areas where the Illustrative plan creates new opportunity districts.

¹⁵ The election contest that was not polarized was the October 2015 election in State Senate District 2 (a majority BVAP district), in which then-incumbent Troy Brown, was supported by a majority of Black and White voters.

V. The Enacted Plans Provide Fewer Opportunity Districts than the Illustrative Plans

Because voting is consistently and markedly racially polarized in the Louisiana areas of interest I examined, Black voters should be offered opportunities to elect their candidates of choice in these areas. The Illustrative Plans provide more opportunities for Black voters to participate in the electoral process and elect their preferred candidates than the Enacted Plans in these areas. I have concluded this on the basis of a district-specific, functional analysis of the two sets of plans in the seven areas of interest. To make this determination, I relied not only upon the demographic composition of the proposed districts but on the voting patterns in the area and whether the candidates preferred by Black voters are likely to usually win in the proposed districts—this is what is meant by “functional.”

Because no state legislative elections have occurred since the new districts were adopted, an alternative method must be used to assess the opportunity of Black voters to elect their preferred candidates in these areas. Election results recompiled to conform to the boundaries of the proposed districts can be used to ascertain whether the candidates preferred by Black voters (as determined by the racial bloc voting analysis) would win in these districts. The best election contests to use for a functional analysis are recent elections that included a Black candidate supported by Black voters, but not by White voters. In this case, all 16 of the statewide election contests I analyzed met these criteria.¹⁶

The election results for all 16 recent statewide elections that included Black candidates were recompiled to conform to the state legislative district boundaries in the Enacted and Illustrative Plans. These recompiled results were then used to construct two indices, or “effectiveness scores.” The first score (Effectiveness Score #1) indicates the percentage of election contests (out of the total 16 statewide contests) that the Black-preferred candidate would have won or advanced to a runoff in the district. The second score (Effectiveness Score #2) reports the percentage of two-candidate elections (out of the eight two-candidate contests) that the Black-preferred candidate would have won in the district.¹⁷ The difference between the two

¹⁶ State legislative contests cannot be used for the purpose of recompiling election results because these elections occurred in districts that do not encompass an area large enough to cover the newly enacted or proposed districts in their entirety.

¹⁷ The eight contests included in Effectiveness Score #2 are: the November 2020 presidential race, the October 2019 elections for Lieutenant Governor and Attorney General, the November 2018 and 2019

scores makes it clear that, while the Black-preferred candidate may advance to the runoff in some instances, winning the runoff is much more challenging.

Comparing Districts in the Illustrative and Enacted Plans There are 11 majority BVAP state senate districts in the Enacted State Senate Plan and 14 in the Illustrative State Senate Plan. In the State House Plan, there are 29 BVAP districts in the Enacted Plan and 35 in the Illustrative Plan. Each of the areas of interest includes at least one additional majority BVAP illustrative district when compared to the number of majority BVAP enacted districts. I created eight different clusters within the areas of interest to evaluate the relevant differences between the Enacted State Senate and State House Plans and the Illustrative State Senate and State House Plans. Each of the three state senate clusters contain an additional state senate BVAP district in the Illustrative Plan. The five state house clusters also include one additional majority BVAP district, except State House Cluster 5, which has two additional majority BVAP districts in the Illustrative Plan than in the Enacted Plan. (See Table 2 for a list of the additional districts in the Illustrative Plans.)

In order to analyze the opportunities of Black voters to elect their candidates of choice in these clusters, I identified all of the proposed illustrative and enacted districts that were wholly or partially contained within the clusters. More specifically, for an enacted or illustrative district to be included in a state house or senate parish cluster, at least 60% of the district had to overlap with the parishes in the cluster. The 60% threshold was arrived at simply to ensure approximately the same number of enacted and illustrative districts in the areas of interest. The only exception to the 60% requirement is State House Cluster 1. In this cluster, a majority Black district centered in the city of Natchitoches in the 2011 State House Plan was cracked across several districts (primarily Districts 7, 22, and 25) in the Enacted Plan—with none of the succeeding districts falling more than 60% within the parish cluster—and no majority Black district was drawn to replace it in this area. The Illustrative State House Plan, however, maintains this majority Black district (Illustrative State House District 23). The eight state senate and house clusters, the parishes in which these districts are encompassed, and illustrative and enacted state legislative districts included in each cluster, are

runoffs for Secretary of State, the November 2017 runoff for State Treasurer, the October 2015 election for Secretary of State, and the November 2015 election for Lieutenant Governor. Although the 2020 presidential election included a number of minor candidates, one of the two major party candidates received at least 50% of the vote in all of the illustrative and enacted districts examined.

listed in Tables 4a (State Senate Clusters) and 4b (State House Clusters). The majority BVAP districts in each cluster are bolded.

Table 4a: State Senate Clusters

| Area of Interest | Parishes | Illustrative Districts | Enacted Districts |
|-------------------------|---|---|-----------------------------------|
| State Senate Cluster 1 | Bossier Caddo | 36 38 39 | 36 38 39 |
| State Senate Cluster 2 | Jefferson St. Charles | 8 9 10 19 | 8 9 10 19 |
| State Senate Cluster 3 | East Baton Rouge West Baton Rouge Iberville Point Coupee | 14 15 16 17 | 6 14 15 16 |

Table 4b: State House Clusters

| Area of Interest | Parishes | Illustrative Districts | Enacted Districts |
|-------------------------|--------------------------------------|--|--|
| State House Cluster 1 | De Soto Natchitoches Red River | 23 | 7 22 25 |
| State House Cluster 2 | Calcasieu | 33 34 35 36 38 | 33 34 35 36 |
| State House Cluster 3 | Bossier Caddo | 1 2 3 4 6 8 9 22 | 1 2 3 4 5 6 8 9 |
| State House Cluster 4 | Ascension Iberville | 59 60 88 | 59 60 88 |
| State House Cluster 5 | East Baton Rouge East Feliciana | 61 62 63 65 66 67 68 69 70 101 | 61 62 63 65 66 67 68 69 70 101 |

I produced effectiveness scores for all of the districts listed in Tables 4a and 4b. All of the majority BVAP districts in these clusters—in both the Illustrative and Enacted Plans—produced effectiveness scores indicating that the proposed districts would offer Black voters an opportunity to elect their candidates of choice to the state legislature. None of the districts with less than 50% BVAP, on the other hand, had scores sufficiently high to merit being classified as effective districts.¹⁸

Analysis of Individual Clusters In all eight clusters (encompassing the seven areas of interest), voting is racially polarized, and the Enacted Plans offered fewer effective Black opportunity districts than the Illustrative Plans. The following provides a brief summary of the voting patterns in each specific area, the effectiveness scores of the illustrative and enacted districts in the cluster(s) in the area (see Tables 4a and 4b for a list of the districts analyzed in each cluster), and maps of the illustrative and enacted districts in the area.

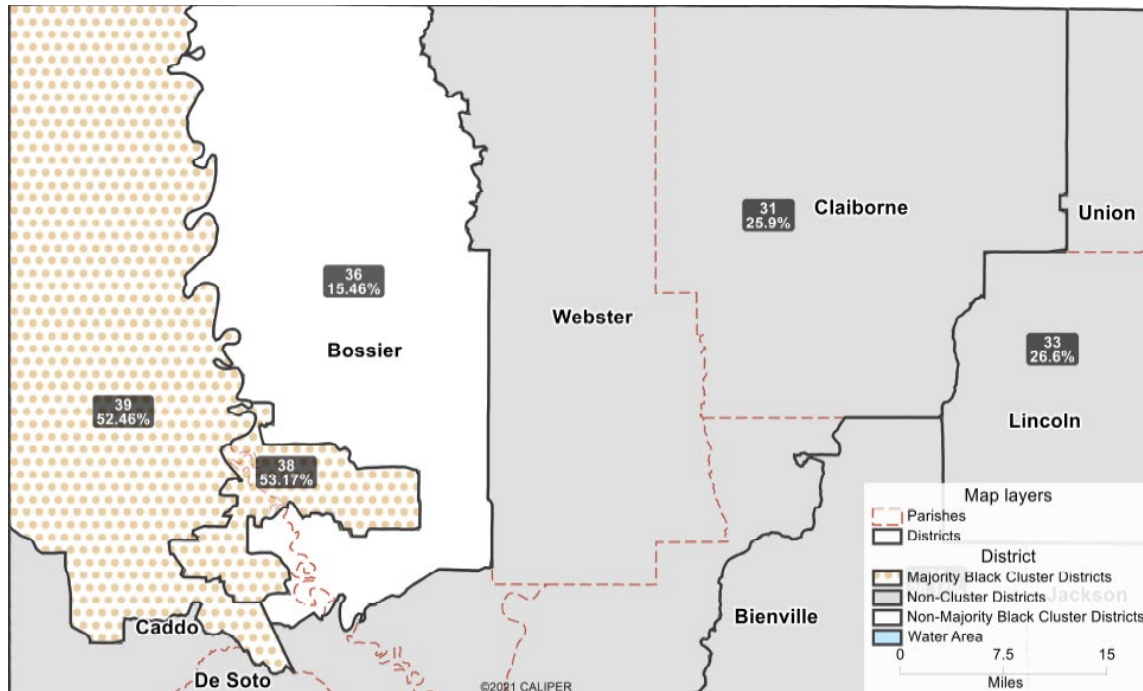
State Senate Cluster 1: Bossier and Caddo Parishes Voting is racially polarized in this cluster (area of interest 1). In all 16 of the statewide elections analyzed, Black and White voters supported different candidates. The Enacted State Senate Plan provides one effective majority BVAP district in this area (District 39). The Illustrative Plan offers two majority Black BVAP districts: District 38, which has effectiveness scores equal to those of Enacted District 39, and a second majority BVAP district, District 39, which also offers Black voters an opportunity to elect their candidates of choice as the Black-preferred Black candidate wins more than 50% of the contests examined and is therefore what I define as an effective district.

¹⁸ There are an equal number of majority BVAP districts in the Enacted and Illustrative State House Plans (20) and the State Senate Plans (8) that have not been included in these clusters and therefore were not analyzed. However, I did examine all state house and senate districts with BVAPs between 35% and 49.9% in the Enacted and Illustrative Plans and found only one effective Black opportunity district in this range in the two plans. Proposed State House District 91 in both the Illustrative and Enacted State House Plans (the district boundaries are identical in the two plans) is not majority BVAP in composition but has a sizeable BVAP (40.7%) and is an effective Black opportunity district according to the effectiveness scores. While not a majority Black district, this district is a majority minority district, with a Hispanic VAP of 8.1% and an Asian VAP of 3.0%. The non-Hispanic White VAP is 47.5%.

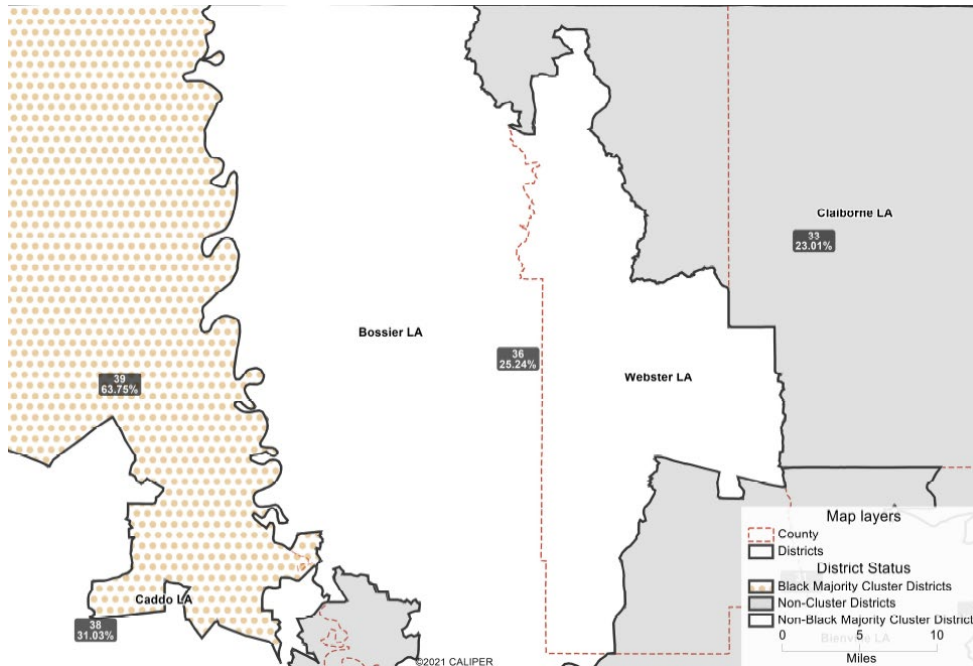
Comparison Table: State Senate Cluster 1

| Illustrative District | Effectiveness Score #1 | Effectiveness Score #2 | Enacted District | Effectiveness Score #1 | Effectiveness Score #2 |
|----------------------------------|-----------------------------------|-----------------------------------|-----------------------------|-----------------------------------|-----------------------------------|
| 36 | 0.0% | 0.0% | 36 | 0.0% | 0.0% |
| 38 | 100.0% | 100.0% | 38 | 18.8% | 0.0% |
| 39 | 81.3% | 62.5% | 39 | 100.0% | 100.0% |

State Senate Cluster 1



Illustrative District Map



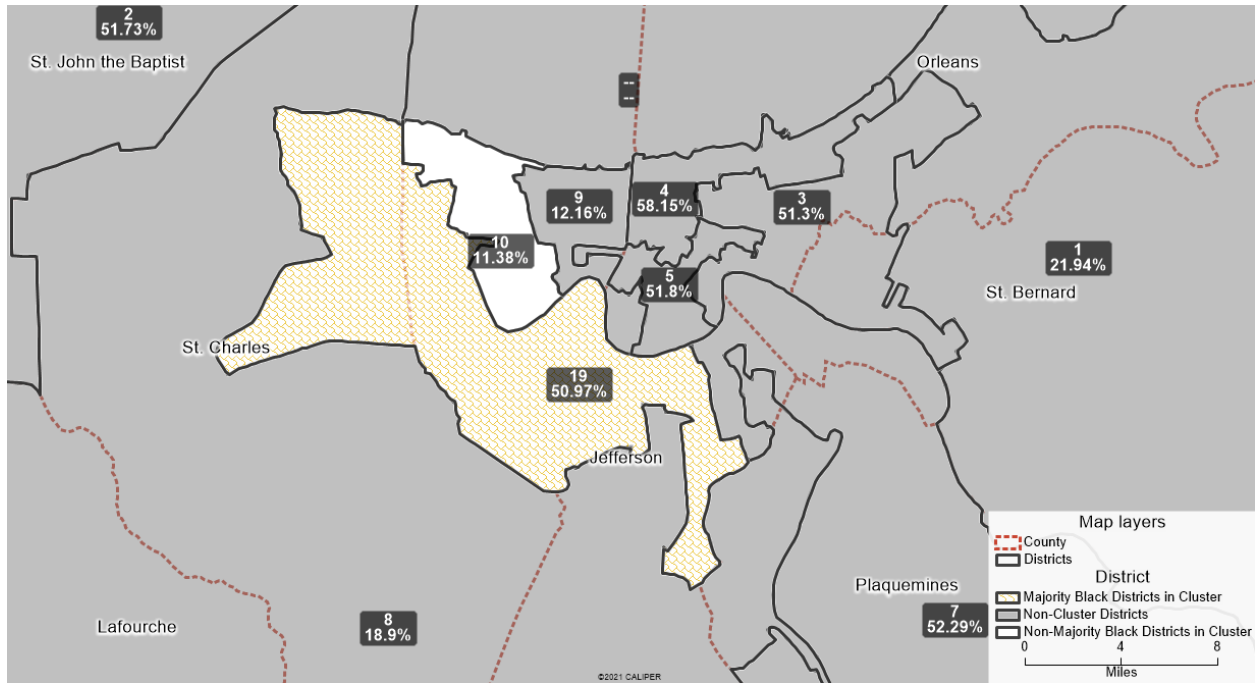
Enacted District Map

State Senate Cluster 2: Jefferson and St. Charles Parishes Voting is racially polarized in this cluster (area of interest 2)—in all 16 of the statewide elections analyzed, Black and White voters supported different candidates. The Enacted State Senate Plan offers no majority BVAP districts in this area. The Illustrative Plan offers one majority BVAP district: District 19, which has effectiveness scores of 100%—the Black-preferred candidate carried the district in all of the elections examined. (If the Black-preferred candidate did not win outright, the Black-preferred candidate ultimately prevailed in the runoff.)

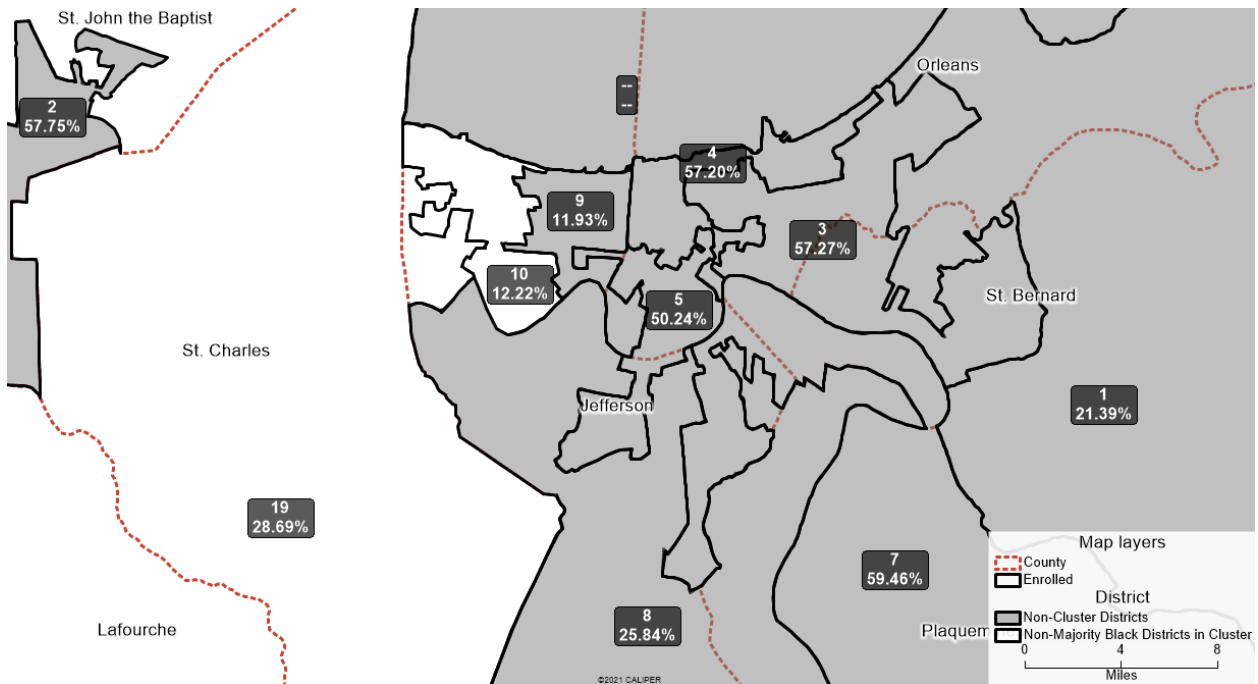
Comparison Table: State Senate Cluster 2

| Illustrative District | Effectiveness Score #1 | Effectiveness Score #2 | Enacted District | Effectiveness Score #1 | Effectiveness Score #2 |
|----------------------------------|-----------------------------------|-----------------------------------|-----------------------------|-----------------------------------|-----------------------------------|
| 8 | 6.3% | 0.0% | 8 | 18.8% | 0.0% |
| 9 | 12.5% | 0.0% | 9 | 12.5% | 0.0% |
| 10 | 0.0% | 0.0% | 10 | 0.0% | 0.0% |
| 19 | 100.0% | 100.0% | 19 | 18.8% | 0.0% |

State Senate Cluster 2



Illustrative District Map



Enacted District Map

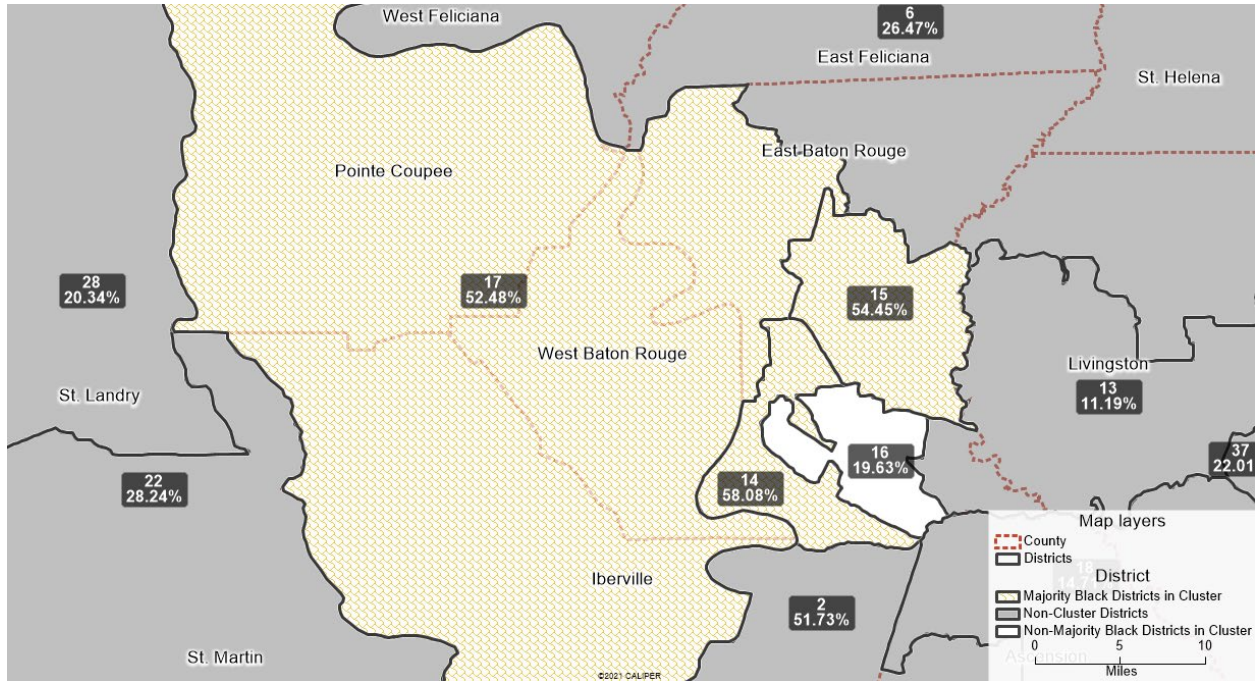
State Senate Cluster 3: East and West Baton Rouge, Iberville, and Point Coupee

Parishes Voting is racially polarized in this cluster (area of interest 3)—in 15 of the 16 of the statewide elections analyzed, Black and White voters clearly supported different candidates. Only in the October 2015 primary election for Lieutenant Governor did a plurality, or close to a plurality of White voters, support Kip Holder, the Black-preferred candidate. However, in the runoff, a majority of the White voters supported the single White candidate running, while Black voter support for Holden remained extremely high. The Enacted State Senate Plan provides two effective majority BVAP district in this area (Districts 14 and 15). The Illustrative Plan offers three majority BVAP districts: Districts 14, 15, and 17. The effectiveness scores of District 14 in both plans are equivalent – the Black-preferred candidate won all the examined elections. Districts 15 and 17 in the Illustrative Plan have lower effectiveness scores but still are effective.

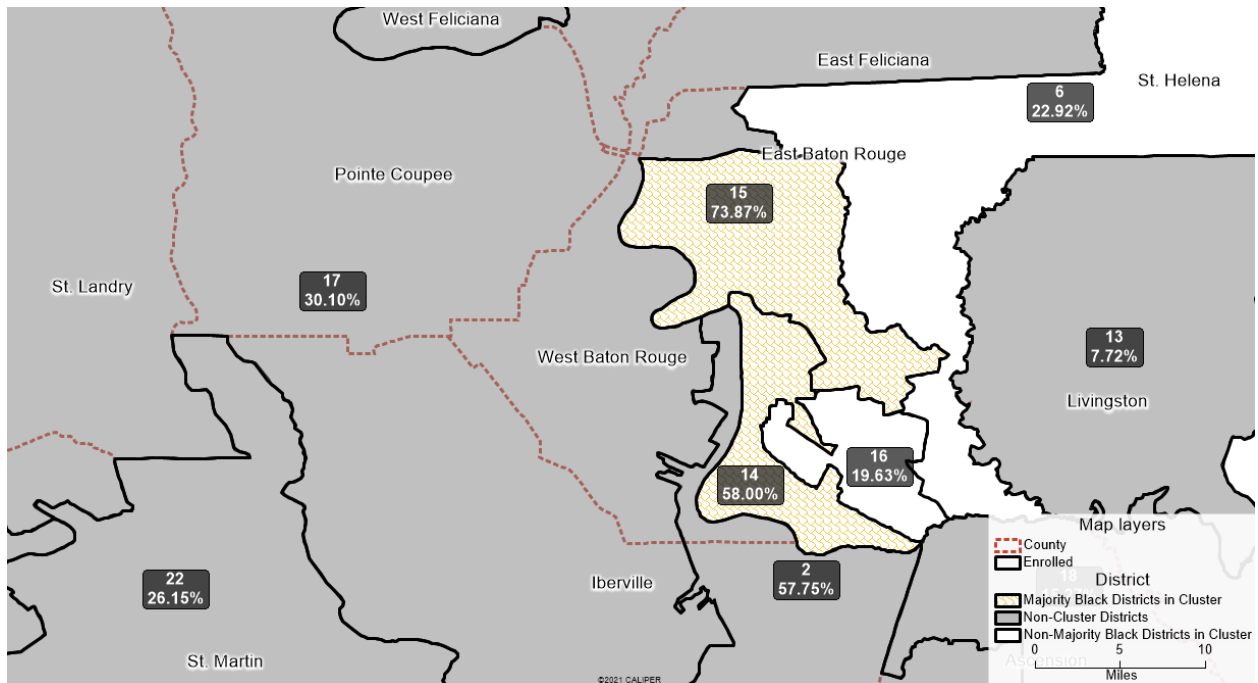
Comparison Table: State Senate Cluster 3

| Illustrative District | Effectiveness Score #1 | Effectiveness Score #2 | Enacted District | Effectiveness Score #1 | Effectiveness Score #2 |
|------------------------------|-------------------------------|-------------------------------|-------------------------|-------------------------------|-------------------------------|
| 14 | 100.0% | 100.0% | 6 | 6.3% | 0.0% |
| 15 | 93.8% | 87.5% | 14 | 100.0% | 100.0% |
| 16 | 12.5% | 12.5% | 15 | 100.0% | 100.0% |
| 17 | 81.3% | 75.0% | 16 | 12.5% | 12.5% |

State Senate Cluster 3



Illustrative District Map



Enacted District Map

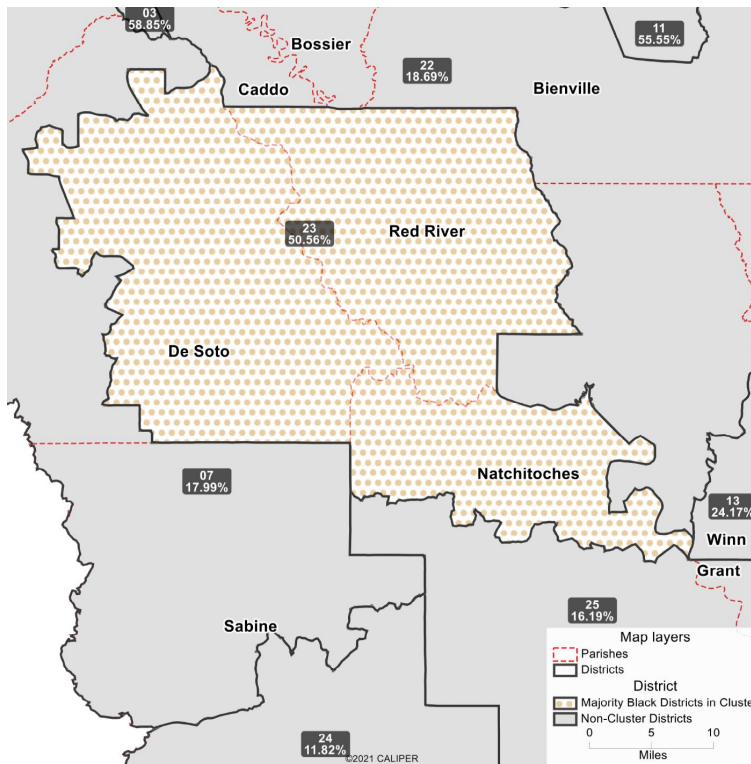
State House Cluster 1: DeSoto, Natchitoches, and Red River Parishes Voting is racially polarized in this cluster (area of interest 4). In all 16 of the statewide elections analyzed, Black and White voters supported different candidates. The Enacted State House Plan does away with the 2011 majority BVAP district in this area (District 23) and does not replace it with another majority BVAP district in this area.¹⁹ The Illustrative Plan maintains the majority BVAP district, District 23, in this area. This district provides Black voters with an opportunity to elect their candidates of choice, with effectiveness scores of 87.5% for both Score #1 and Score #2.

Comparison Table: State House Cluster 1

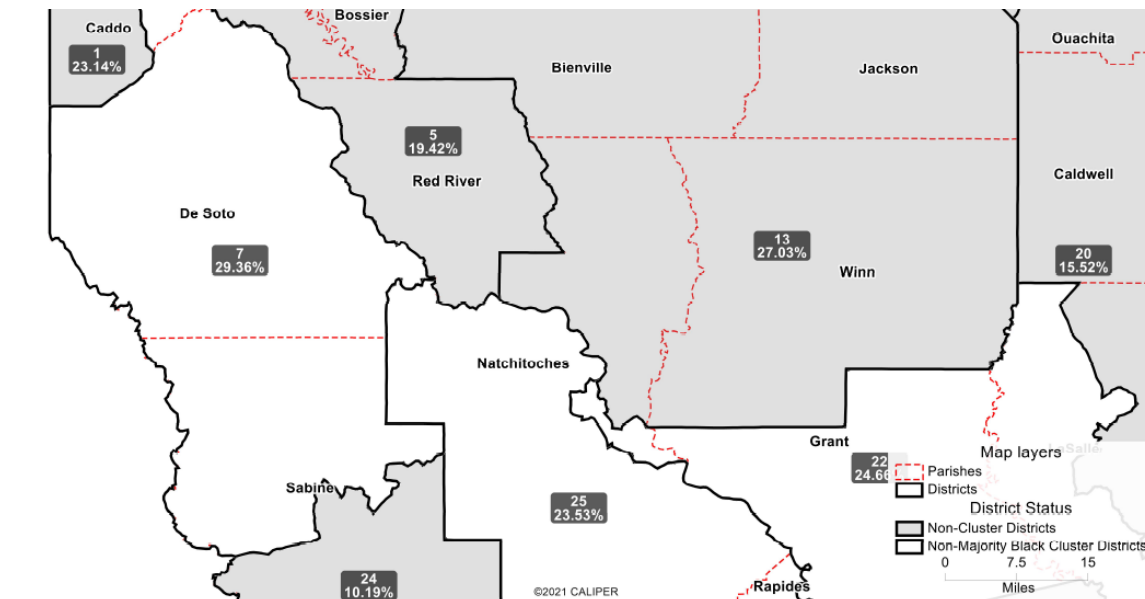
| Illustrative District | Effectiveness Score #1 | Effectiveness Score #2 | Enacted District | Effectiveness Score #1 | Effectiveness Score #2 |
|----------------------------------|-----------------------------------|-----------------------------------|-----------------------------|-----------------------------------|-----------------------------------|
| 23 | 87.5% | 87.5% | 7 | 18.8% | 0.0% |
| | | | 22 | 0.0% | 0.0% |
| | | | 25 | 0.0% | 0.0% |

¹⁹ House District 23 in the Enacted Plan has been relocated in Orleans Parish and is a majority BVAP district. (The Illustrative Plan offers a comparable majority BVAP district in Orleans but labels it with a different district number.)

State House Cluster 1



Illustrative District Map



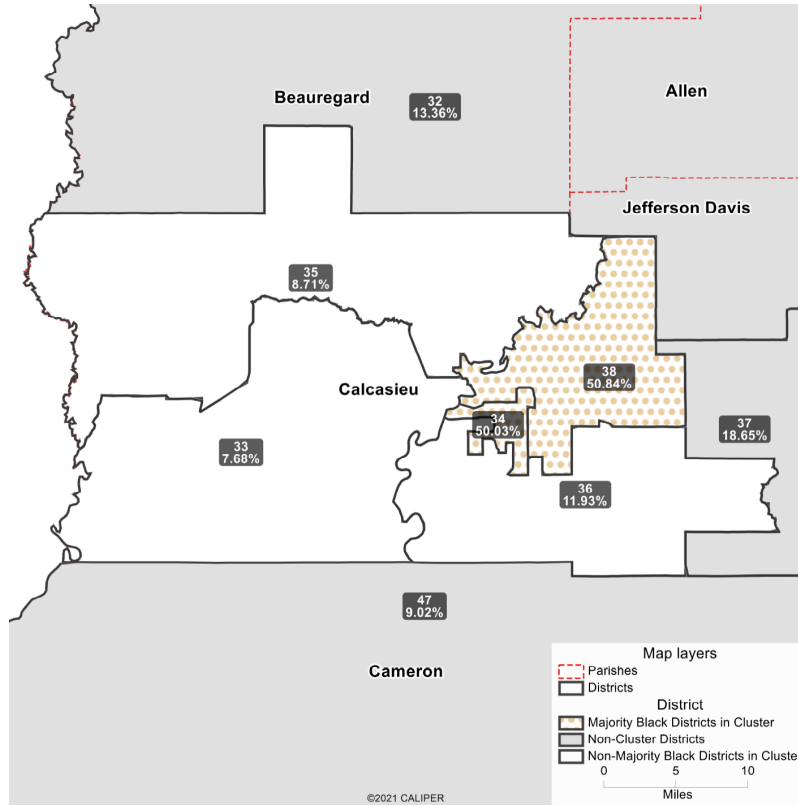
Enacted District Map

State House Cluster 2: Calcasieu Parish Voting is racially polarized in this cluster (area of interest 5)—in all 16 of the statewide elections analyzed, Black and White voters supported different candidates. The Enacted State Senate Plan provides one effective majority BVAP district in this area (District 34) and the Illustrative Plan offers two majority BVAP districts: Districts 34 and 38. Effectiveness Score #2 in the majority BVAP district in the Enacted Plan and the two majority BVAP districts in the Illustrative Plan are 100% in all instances.

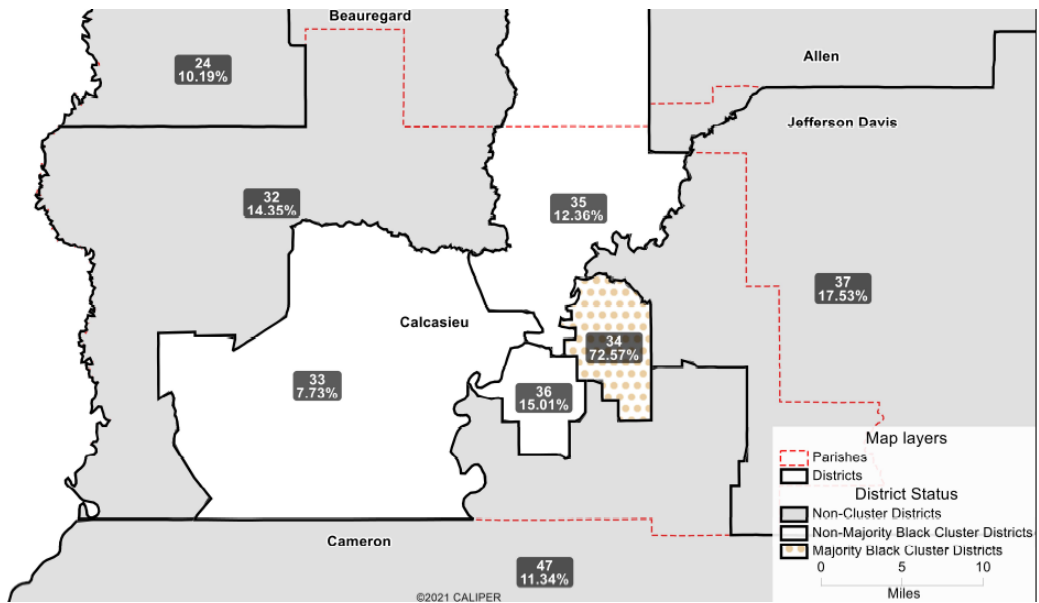
Comparison Table: State House Cluster 2

| Illustrative District | Effectiveness Score #1 | Effectiveness Score #2 | Enacted District | Effectiveness Score #1 | Effectiveness Score #2 |
|------------------------------|-------------------------------|-------------------------------|-------------------------|-------------------------------|-------------------------------|
| 33 | 0.0% | 0.0% | 33 | 0.0% | 0.0% |
| 34 | 93.8% | 100.0% | 34 | 100.0% | 100.0% |
| 35 | 0.0% | 0.0% | 35 | 0.0% | 0.0% |
| 36 | 0.0% | 0.0% | 36 | 0.0% | 0.0% |
| 38 | 93.8% | 100.0% | | | |

State House Cluster 2



Illustrative District Map



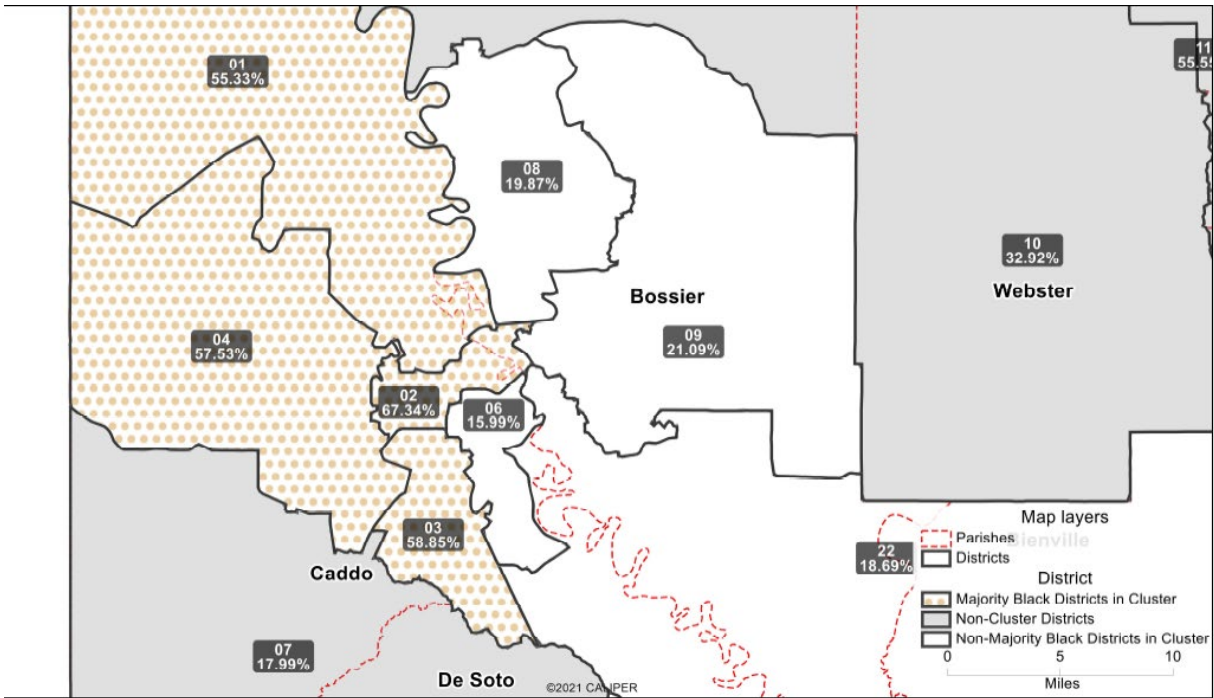
Enacted District Map

State House Cluster 3: Bossier and Caddo Parishes Voting is racially polarized in this cluster (area of interest 1). In all 16 of the statewide elections analyzed, Black and White voters supported different candidates. The Enacted State House Plan provides three effective majority BVAP district in this area (Districts 2, 3, and 4). The Illustrative Plan offers one additional majority BVAP district for a total of four BVAP districts (Districts 1, 2, 3, and 4). Illustrative Districts 2 and 4, like Enacted Districts 2, 3, and 4, score 100% on Scores #1 and #2. Illustrative District 1 and 3 score less than 100% but still offer Black voters an opportunity to elect their candidates of choice.

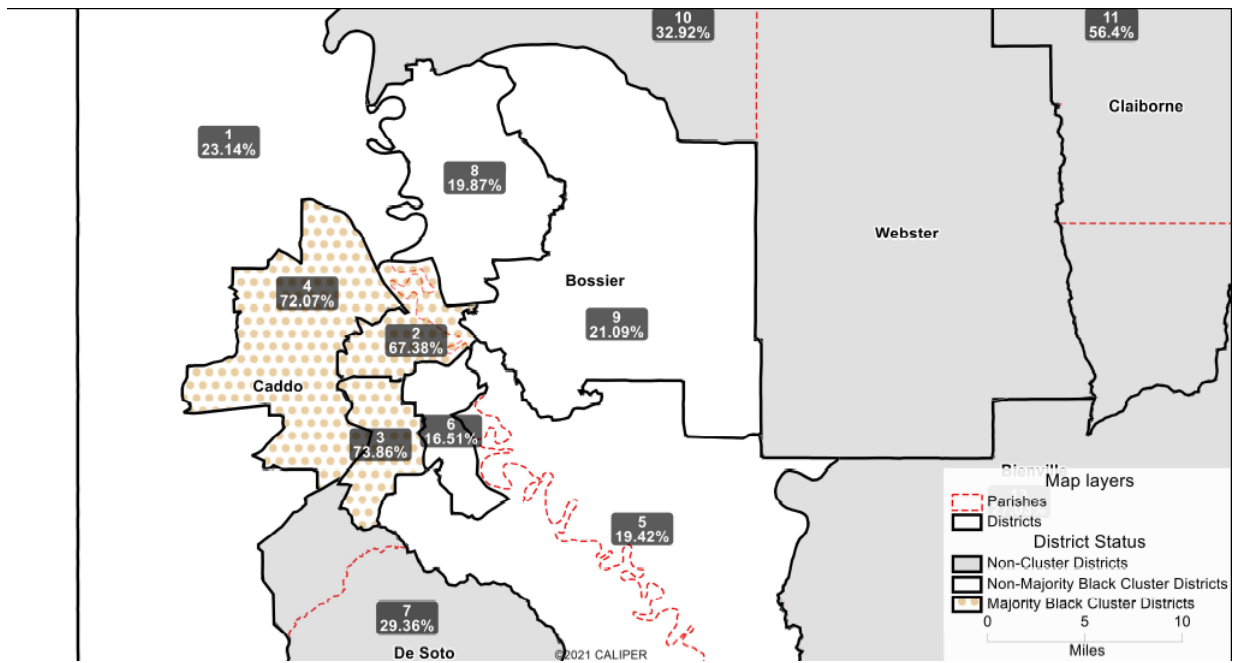
Comparison Table: State House Cluster 3

| Illustrative District | Effectiveness Score #1 | Effectiveness Score #2 | Enacted District | Effectiveness Score #1 | Effectiveness Score #2 |
|------------------------------|-------------------------------|-------------------------------|-------------------------|-------------------------------|-------------------------------|
| 1 | 81.3% | 62.5% | 1 | 6.3% | 0.0% |
| 2 | 100.0% | 100.0% | 2 | 100.0% | 100.0% |
| 3 | 87.5% | 75.0% | 3 | 100.0% | 100.0% |
| 4 | 100.0% | 100.0% | 4 | 100.0% | 100.0% |
| 6 | 6.3% | 0.0% | 5 | 0.0% | 0.0% |
| 8 | 0.0% | 0.0% | 6 | 6.3% | 0.0% |
| 9 | 0.0% | 0.0% | 8 | 0.0% | 0.0% |
| 22 | 0.0% | 0.0% | 9 | 0.0% | 0.0% |

State House Cluster 3



Illustrative District Map



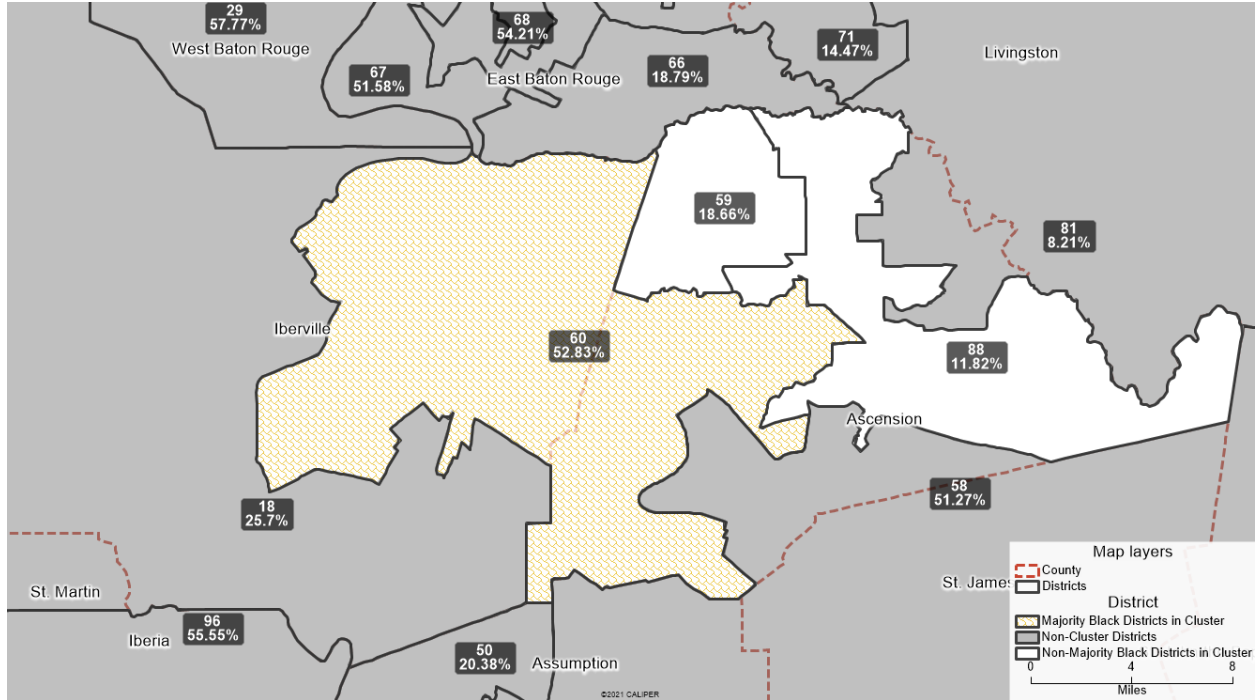
Enacted District Map

State House Cluster 4: Ascension and Iberville Parishes Voting is racially polarized in this cluster (area of interest 6). In all 16 statewide elections analyzed, Black and White voters supported different candidates. The Enacted State House Plan offers no majority BVAP districts in this area. The Illustrative Plan offers one majority BVAP district, District 60, which has effectiveness scores of 100%.

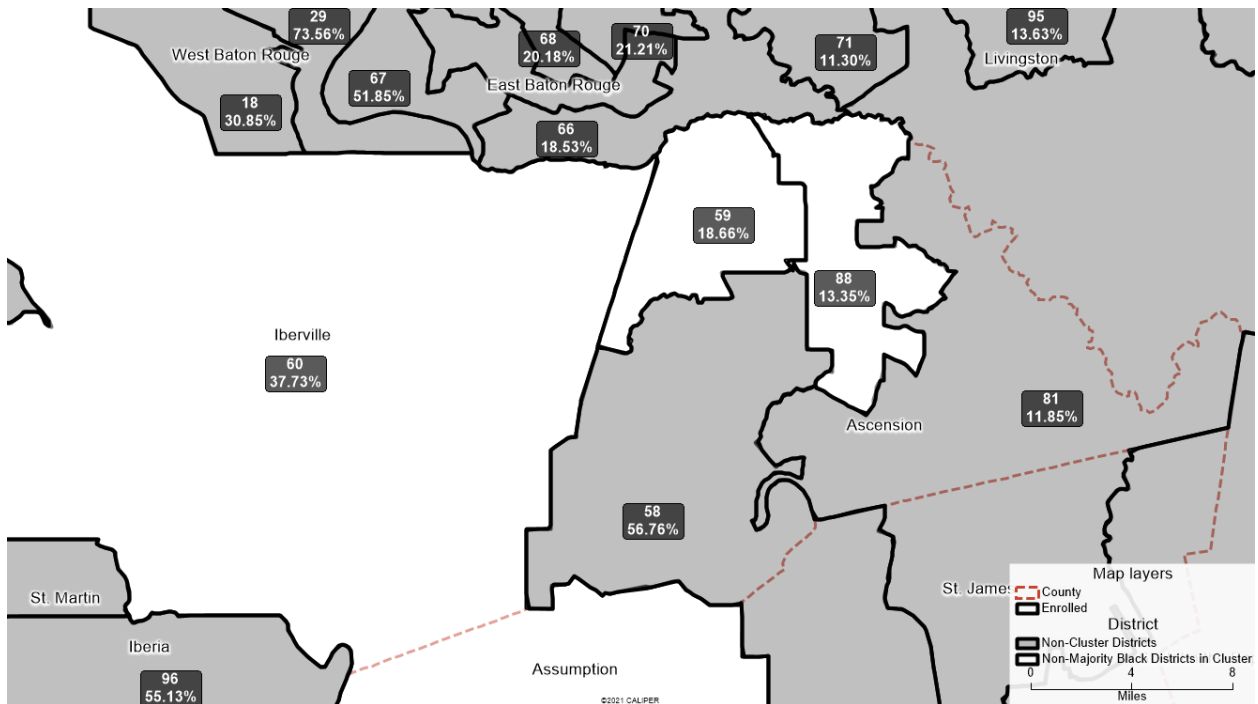
Comparison Table: State House Cluster 4

| Illustrative District | Effectiveness Score #1 | Effectiveness Score #2 | Enacted District | Effectiveness Score #1 | Effectiveness Score #2 |
|------------------------------|-------------------------------|-------------------------------|-------------------------|-------------------------------|-------------------------------|
| 59 | 0.0% | 0.0% | 59 | 6.3% | 0.0% |
| 60 | 100.0% | 100.0% | 60 | 43.8% | 25.0% |
| 88 | 6.3% | 0.0% | 88 | 6.3% | 0.0% |

State House Cluster 4



Illustrative District Map



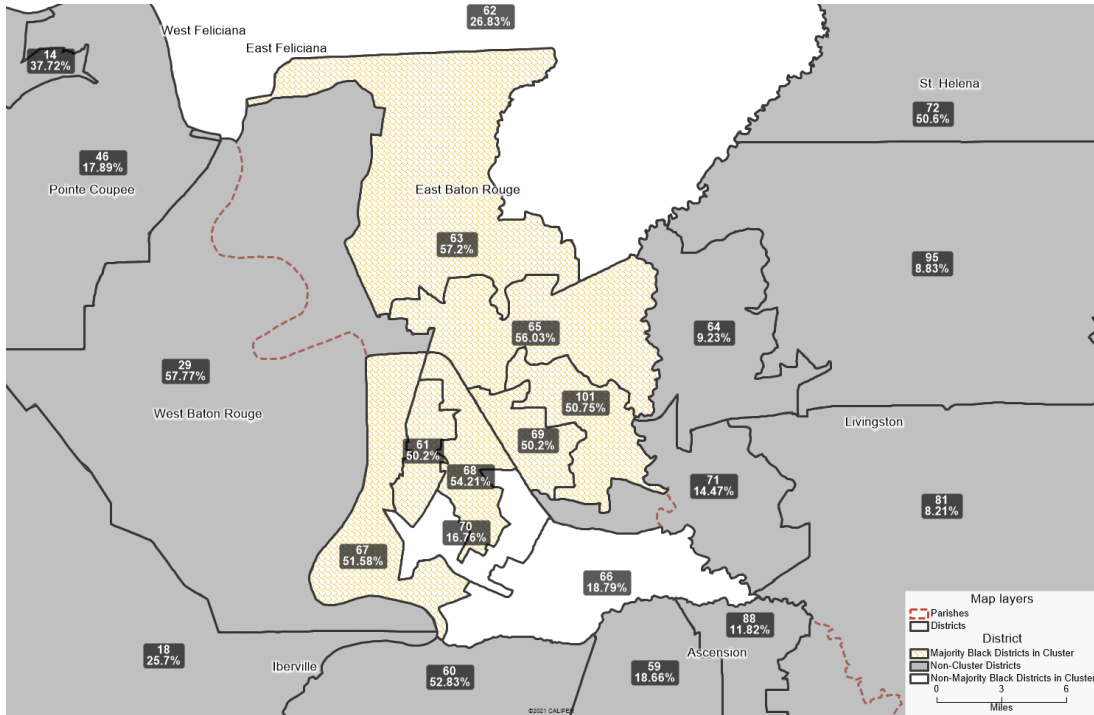
Enacted District Map

State House Cluster 5: East Baton Rouge and East Feliciana Parishes Voting is racially polarized in this cluster (area of interest 7). In 15 of the 16 statewide elections analyzed, Black and White voters supported different candidates. Only in the October 2015 primary election for Lieutenant Governor did a plurality, or close to a plurality of White voters, support Kip Holder, the Black-preferred candidate. However, in the runoff, White voters coalesced around the single White candidate running, while Black voter support for Holden remained extremely high. The Enacted State House Plan offers five majority BVAP districts in this area; the Illustrative Plan offers seven majority BVAP districts. All of the majority BVAP districts in both plans provide Black voters with an opportunity to elect their candidates of choice.

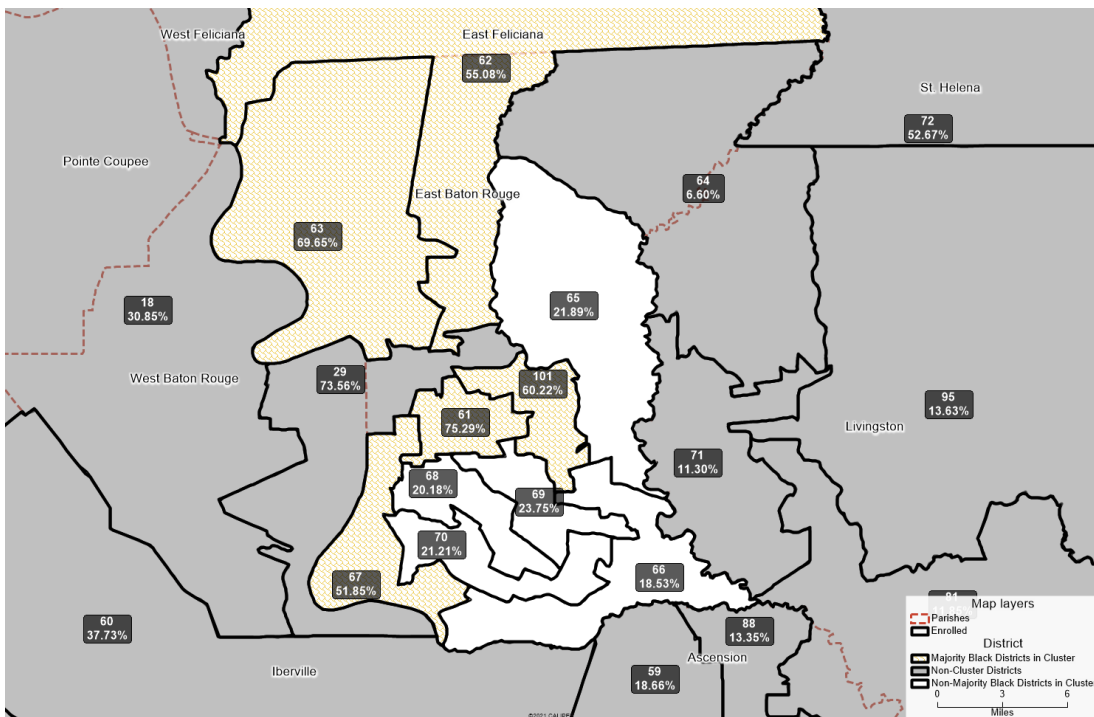
Comparison Table: State House Cluster 5

| Illustrative District | Effectiveness Score #1 | Effectiveness Score #2 | Enacted District | Effectiveness Score #1 | Effectiveness Score #2 |
|------------------------------|-------------------------------|-------------------------------|-------------------------|-------------------------------|-------------------------------|
| 61 | 100.0% | 100.0% | 61 | 100.0% | 100.0% |
| 62 | 31.3% | 12.5% | 62 | 93.8% | 87.5% |
| 63 | 93.8% | 87.5% | 63 | 100.0% | 100.0% |
| 65 | 93.8% | 87.5% | 65 | 6.3% | 0.0% |
| 66 | 6.3% | 0.0% | 66 | 6.3% | 0.0% |
| 67 | 100.0% | 100.0% | 67 | 100.0% | 100.0% |
| 68 | 93.8% | 87.5% | 68 | 18.8% | 12.5% |
| 69 | 75.0% | 62.5% | 69 | 6.3% | 0.0% |
| 70 | 12.5% | 12.5% | 70 | 18.8% | 12.5% |
| 101 | 100.0% | 100.0% | 101 | 100.0% | 100.0% |

State House Cluster 5



Illustrative District Map



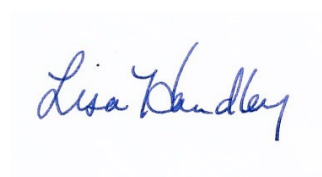
Enacted District Map

VII. Conclusion

My analysis of voting patterns by race found that the Black community in the seven areas of Louisiana that I examined is cohesive in supporting their preferred candidates and that White voters consistently bloc vote to defeat these candidates. Racially polarized voting substantially impedes the ability of Black voters to elect candidates of their choice to the Louisiana state legislature in these areas unless districts are drawn to provide Black voters with this opportunity. The Enacted State Senate and House Plans dilute the voting strength of Black voters in Louisiana by failing to create additional districts in these areas that offer Black voters an opportunity to elect their candidates of choice to the state legislature.

Pursuant to 28 U.S.C. § 1746, I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

Executed June 30, 2022.

A handwritten signature in blue ink that reads "Lisa Handley". The signature is written in a cursive, flowing style.

Lisa Handley, Ph.D.